dedicated and common channels DCH, DSCH. In Figure 8, the TFCI values 2, 3 and 4 relate to the same service combination, but different allocated common channels DSCH are signaled.

If this table is allocated to a number of connections V1, V2, various common channels DSCH can be chosen as alternatives by selecting a suitable TFCI value 2, 3 or 4, in order to permit a high data rate for up to three connections V simultaneously. By contrast, the low total data rate in the second row can always be transmitted in the permanently allocated dedicated channel DCH. For this reason, no common channel DSCH is necessary.

The in-band signaling of the TFCI values is effected as shown in Figure 9. Within frame-by-frame transmission of data together with other information, capacity is also provided for transmitting the currently chosen combination of the transport formats TF and allocation of the common channels DSCH in the form of the TFCI values. In the FDD mode of UMTS, a frame lasts 10 ms, with bits of a pilot sequence serving for channel estimation, bits being required for transmission power regulation and bits being reserved for in-band signaling of the TFCI. Next comes a data component with user information. Error protection coding of the TFCI on, by way of example, 32 bits and scrambling of the user information over a number of frames are not shown in Figure 9.

Although the present invention has been described with reference to specific embodiments, those of skill in the art will recognize that changes may be made thereto without departing from the spirit and scope of the invention as set forth in the hereafter appended claims.

ABSTRACT OF THE DISCLOSURE

A method for transmitting data in a radio communication system directed toward implicitly signaling used common channels using the data rate, and permitting a number of combinations of channels (spread codes) as alternatives only for particular data rates for the individual services. This saves transmission capacity because there is no need to reserve any individual bits within the TFCI parameter just for allocating the common channels to different connections. Th

method is preferably applied in the downlink of the FDD mode of UMTS mobile radio systems.

In the claims:

On page 13, cancel line 1, and substitute the following left-hand justified heading therefor:

We Claim as Our Invention:

Please cancel claims 1-10, without prejudice, and substitute the following claims therefor:

11. A method for transmitting data over a radio interface between a base station and a plurality of subscriber stations in a radio communication system, the method comprising the steps of:

distinguishing channels in a broadband frequency band using individual spread codes, wherein at least one common channel is allocated to a plurality of connections existing in parallel for use at successive times;

signaling in-band a subsequently valid allocation of the at least one common channel for one of the plurality of connections in at least one of the channels of the data transmission using a data rate allocated to the connection;

agreeing upon a relationship between the allocated data rate and the at least one common channel to be used in a separate signaling channel; and

transmitting the data in the at least one of the channels for data transmission based on the allocation.

12. A method for transmitting data over a radio interface between a base station and a plurality of subscriber stations in a radio communication system as claimed in claim 11, wherein, within one of the plurality of connections between the base station and a subscriber station, a combination of data for a plurality of services is transmitted within at least one channel, with each of the combination, the data rate and the allocation of the common channels being signaled using TFCI values.

13. A method for transmitting data over a radio interface between a base station and a plurality of subscriber stations in a radio communication system as claimed in claim 11, wherein the transmission of data occurs in a downlink direction from the base station to the plurality of subscriber stations.

14. A method for transmitting data over a radio interface between a base station and a plurality of subscriber stations in a radio communication system as claimed in claim 13, wherein a largest possible number of channels are allocated as the common channels, with at least one channel per connection being allocated exclusively.

15. A method for transmitting data over a radio interface between a base station and a plurality of subscriber stations in a radio communication system as claimed in claim 14, wherein the common channels are allocated for connections having a high maximum data rate.

16. A method for transmitting data over a radio interface between a base station and a plurality of subscriber stations in a radio communication system as claimed in claim 14, wherein the common channels are allocated for connections having high data rate dynamics.

17. A method for transmitting data over a radio interface between a base station and a plurality of subscriber stations in a radio communication system as claimed in claim 11, wherein, for a subset of the data rates, the in-band signaling can be used to select a plurality of combinations of channels for a connection.

18. A method for transmitting data over a radio interface between a base station and a plurality of subscriber stations in a radio communication system as claimed in claim 11, wherein a relationship between the allocated data rate and the common channels to be used is agreed upon at connection setup.